ATTORNEY DOCKET NO   PATENT
003498.P033   U.S. 09/405,821

This listing of claims will replace all prior versions, and listings, of claims in the application.

All claims currently being amended are shown with deleted text struckthrough or double bracketed and new text underlined. Additionally, the status of each claim is indicated in parenthetical expression following the claim number.

Claims 6, 8, 9, 13, 15 – 19, 21, 22, and 26 - 29 remain.

Claim 6 is being amended.

Claims 1 – 5, 7, 10 – 12, 14, 20, 23, and 25 have previously been cancelled.

Claims 6, 8, 17, 19, 22, and 28 have been previously amended.

Claims 13 and 15 are currently being cancelled.

Claims 19, 21, 22, 24, and 26 – 29 have been allowed.

WHAT IS CLAIMED IS:

1 – 5. (Cancelled)

6. (Currently Amended)   A method for improving network performance in a network having a slotted link architecture, the method comprising:

assigning a time slot within a network frame to each device in the network;

providing an unassigned time slot within each network frame, the unassigned time slot shared by the devices in the network for transmissions upon completion of regularly scheduled transmissions;

performing a clear channel assessment of a first device, taking into account the first device's designated transmission time slot within a network frame with respect to those of the other network devices; and

transmitting data during the unassigned time slot responsive to the clear channel assessment.

7. (Cancelled)

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8. (Previously Presented)   The method of claim 6 wherein the clear channel assessment comprises waiting for the expiration of a time period that is the product of a predetermined clear channel waiting time and a numerical representation of the first device's designated transmission time slot within the communication channel.

9. (Original)   The method of claim 8 wherein the predetermined clear channel waiting time is designated by a network master device upon a connection thereto by the first device.

10 - 15 (Cancelled)

16. (Previously Presented)   A method comprising accommodating asynchronous data transmissions within a synchronized network, in which inter-node communications are organized into frames of time periods by permitting such asynchronous communications within otherwise idle times within those frames having unused idle times that occur upon completion of all regularly scheduled transmissions within such frames, wherein such unused idle times are shared by utilizing clear channel assessment by nodes within the network.

17. (Previously Presented)   The method of claim 16 wherein use of the idle times takes into account a transmitting node's designated transmission time within a particular frame with respect to transmission times of other nodes of the network.

18. (Original)   The method of claim 16 wherein the asynchronous data transmissions are self-organized and/or self-synchronized by nodes of the network without direct scheduling assistance from a network master.

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19. (Previously Presented)   A method comprising:

allocating, for each of a number of clients of a computer network, a designated transmission time slot within each network frame period of a communication channel of the computer network;

establishing a common clear channel waiting time to be used by each of the clients of the computer network;

upon detecting an idle time at an end of a network frame period, those of the clients of the computer network having data to transmit sharing the idle time for transmissions of data according to a sharing plan that takes into account the common clear channel waiting time; wherein the sharing plan comprises those of the clients of the computer network having data to transmit each waiting a time $T_{IDLE}=T_{CCA} * C$ before transmitting a packet within the idle time, where T_{CCA} is the common clear channel waiting time, and C is the difference between a client's designated transmission time slot and a transmission time slot of a last client to transmit within the channel.

21. (Original)   The method of claim 19 wherein those of the clients of the computer network having data to transmit, transmit only one packet in the idle time.

22. (Previously Presented)   The method of claim 21 wherein those of the clients of the computer network having data to transmit take turns transmitting asynchronous data over the channel in the idle time.

24. (Original)   The method of claim 19, wherein those of the clients of the computer network having data to transmit take turns transmitting low priority data over the channel in the idle time.

25. (Cancelled)

26. (Original)   The method of claim 19, wherein the sharing plan further takes into

account each respective client's designated transmission time slot within network frame periods.

27. (Original)   The method of claim 26, further comprising one of the clients of the computer network requesting a new designated transmission time slot earlier in each network frame period that a current designated transmission time slot of that client in order to have a better chance of making use of the idle time.

28. (Previously Presented)   A method, comprising:

allocating for each of a number of clients of a computer network, a designated transmission time slot within each network frame period of a communication channel of the computer network;

establishing a common clear channel waiting time to be used by each of the clients of the computer network;

detecting an idle time at an end of a network frame period; and

a first one of the clients of the computer network transmitting a packet in the idle time after waiting a time $T_{IDLE}=T_{CCA} * C$, where T_{CCA} is the common clear channel waiting time, and C is a difference between the first client's designated transmission time slot and a transmission time slot of a last client to transmit within the channel.

29. (Original)   The method of claim 28, further comprising the first client reprogramming its $T_{IDLE}=T_{CCA} *N$, where N is the total number of devices in the computer network.